

What is claimed is:

1. A breather system for a motorcycle engine having a chamber for collecting blow-by gas, the breather system comprising

5 a manifold portion having a wider portion and a narrower portion, the manifold portion being arranged to be disposed between an air-filter element and an inlet valve of the engine so as to channel air into the engine, and

a conduit having an inlet being arranged to receive the blow-by gas from the chamber and an outlet that is in use connected to the manifold portion such that a
10 passage is provided between the chamber and the manifold portion,

wherein the manifold portion is arranged so that in use dynamic pressure of the channeled air at the wider portion of the manifold portion is lower than at the narrower portion and the established pressure gradient facilitates removal of the blow-by gas from the chamber.

15 2. The breather system as claimed in claim 1 wherein the manifold portion tapers in cross-sectional area from the wider portion to the narrower portion.

20 3. The breather system as claimed in claim 1 wherein the inlet valve is throttle valve.

4. The breather system as claimed in claim 3 wherein the throttle valve is a throttle valve of a carburettor.

25 5. The breather system as claimed in claim 1 wherein the outlet of the conduit is arranged for connection to a bottom portion of the manifold.

6. The breather system as claimed in claim 1 wherein the inlet of the conduit is arranged for connection to a cylinder head of the engine.

7. The breather system as claimed in claim 1 wherein the engine is a multi-cylinder engine and the breather further comprises at least one bridge portion, the or each bridge portion incorporating a passage arranged to connect at least two cylinder heads with the inlet of the conduit such that, in use, exhaust that enters the or each bridge portion from either of the at least two cylinder heads will be guided through the conduit into the manifold portion.

8. The breather system as claimed in claim 1 wherein the motorcycle engine is a V-twin engine arranged such that the crankshaft of the engine is oriented in a direction substantially perpendicular to the driving direction of the motorcycle.

9. The breather system as claimed in claim 7, wherein the motorcycle engine is a V-twin engine arranged such that the crankshaft of the engine is oriented in a direction substantially perpendicular to the driving direction of the motorcycle and wherein the bridge-portion has a first end-portion arranged for connection to the rear cylinder head and a second end-portion is arranged for connection to the front cylinder head.

10. The breather system as claimed in claim 9 wherein the second end-portion of the bridge portion is connected to the inlet of the conduit such that, in use, exhaust that exits the rear cylinder head at the first end-portion of the bridge portion is guided through the bridge portion and, together with exhaust that exits the front cylinder head, is guided through the conduit into the manifold portion.

11. The breather system as claimed in claim 9 wherein the first end-portion of the bridge portion is connected to the inlet of the conduit such that, in use, exhaust that exits the front cylinder head at the second end-portion of the bridge portion is guided through the bridge portion and, together with exhaust that exits the rear cylinder head, is guided through the conduit into the manifold portion.

12. A motorcycle engine having the breather system as claimed in any one of the preceding claims.

13. The motorcycle engine as claimed in claim 12 being arranged so that blow-by gas is directed through the inlet valve of the engine back into the engine.

5 14. A method of ventilating a chamber of a motorcycle engine, the chamber containing blow-by gas and the method comprising
guiding the blow-by gas from the chamber into a conduit to a manifold portion disposed between an air-filter and an inlet valve of the engine,
channeling air through the manifold portion into the engine, and
10 facilitating throughput of blow-by gas from the chamber through the conduit into the manifold by inducing a pressure gradient of channeled air in the manifold portion.